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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/024,783	12/20/2001	Henricus Franciscus Johannes Jacobus Van Tongeren	NL 000766	3215

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER

KRISHNAN, SUMATI

ART UNIT PAPER NUMBER

2875

DATE MAILED: 07/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/024,783

Applicant(s)

VAN TONGEREN ET AL.

Examiner

Sumati Krishnan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Sturm et al (US 6087196).

Regarding claims 1, 4, and 9, Sturm discloses an electroluminescent device comprising a pattern-wise ink-jet printed electrode for supplying charges (holes or electrodes) to an electroluminescent layer of the EL device. See columns 5-6 lines 40-67 and lines 5-20 which discloses that both the bottom and top electrode, made of a metal, can be patterned and are deposited through ink jet printing.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Burrows (US 5980976) in view of Sturm et al (US 6087196). Burrows discloses an EL device comprising an electrode having a thickness of at least 5 microns. See column 7 lines 20-30, disclosing the electrode 16 having a transverse thickness of 8-12 microns. Burrows does not disclose this

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electrode being patterned, however Sturms discloses a patterned top and bottom electrode and discloses that a patterned electrode allows for individual electrical control. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have patterned the electrode of Burrows in order to have individual electrode control thus enabling more elaborate display effects.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sturm et al (US 6087196) in view of Feldman et al (US 5753381). Sturm discloses the EL device of claim 1, but does not disclose the melting point of the metal in the electrode being 250 degrees C or less. However, Feldman discloses an EL element where the electrode is comprised of low melting point metal such as tin (which has a melting point lower than 250 degrees C) in an effort to have the electrodes shrink when heated, thus in case of a short, minimizing the damaging effects. Therefore, it would have been obvious to one of ordinary skill in the art to have used a low melting point metal in the invention of Sturms in order to protect the element from further damage in case of a short.

Claim 5 is rejected under 35 U.S.C 103(a) as being unpatentable over Sturm et al (US 6087196) in view of Hung et al (US 5608287). Sturm discloses the EL element of claim 4, but does not disclose the electrode having a work function of 4.5 eV or less. However, it is very common to make electrodes of an EL device with work functions of 4.5 eV or less. For example, Hung et al discloses that the bottom electrode be made of alkaline or rare earth metals with work functions of less than 4.0 eV such as metal silicates or metal borides. Hung discloses that these metals provide protection from atmospheric corrosion. Therefore, it would have been obvious to

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one of ordinary skill to have used such a metal for the electrode in order to protect the EL device from atmospheric corrosion.

Claim 6 is rejected under 35 U.S.C 103(a) as being unpatentable over Sturm et al (US 6087196) in view of Duineveld et al (WO 01/41229). Sturm discloses the EL element of claim 1, but does not disclose the EL device further comprising a relief pattern. Duineveld discloses an EL element included with a relief pattern to pattern other layers of the EL element, including the luminescent layers. See figure 1, element 7. The limitation that the relief pattern should be used to pattern the electrode is functional language and not given patentable weight. Duineveld discloses an EL element comprising a relief pattern constructed in such a way as to enable an improved service life. Therefore, it would have been obvious to one of ordinary skill in the art to include a relief pattern in the construction of the EL element in order to facilitate patterning of others layers while maintaining an improved service life.

Claim 8 is rejected under 35 U.S.C 103(a) as being unpatentable over Sturm et al (US 6087196). Sturm discloses the EL device as described in claim 1, but does not disclose a battery operated or hand held electronic device provided with this EL device. However, it is old and well known in the art to use EL elements in electronic devices such as mobile phones. It would have been obvious to one of ordinary skill in the art to have used Sturm's invention in an electronic device because this is one of its most common applications.

Allowable Subject Matter

Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

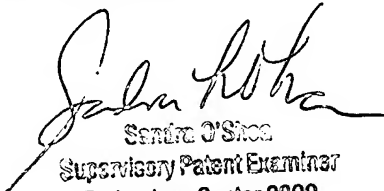
The following is an examiner's statement of reasons for allowance: the prior art of record neither shows nor suggests the deposition step of ink jet printing molten metal on a surface to form the electrode upon cooling of the metal.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sumati Krishnan whose telephone number is 703-305-7906. The examiner can normally be reached on 8:00 am - 4:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on 703-305-4939. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800

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SK

July 14, 2003